

Going Green:

Practical Approaches for Health Care

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Why are organizations going green?



Why are Facilities Going Green?

- Improve operational efficiencies
- Reduce operating cost and maintenance
- Demonstrate leadership
- Respond to residents or staff interests
- Provides marketing edge
- Personal conviction - value based

Other reasons for going green...

- Facilities performance improvements; e.g., lighting, reduced housekeeping, etc.
- Meaningful activity for resident involvement
- Morale improvements



Lessen environmental impacts

Understanding your Environmental Impacts?

Carbon Footprint

Energy Use and Costs

Healthy Indoor Air Quality

Water use – Drought Actions

Medical Waste Management

Recycling

Green Cleaning Products

High Perf LEED Buildings

Stormwater Runoff

Environmental Purchasing

Supporting Green Power

Staff Involvement

Environmental Policy

Transportation

Renovations & New Construction Decisions

External Environmental Driving Factors

- Waste management requirements & bans
 - Recently banned material from landfills
 - Plastic bottles, pallets, oil filters (Oct '09)
 - TV's and computer equipment (Jan '11)
- NC droughts - local water-use restrictions
- NC Renewable and Energy Efficiency Portfolio Standard – incentive
- Federal and state energy incentives

Approaches

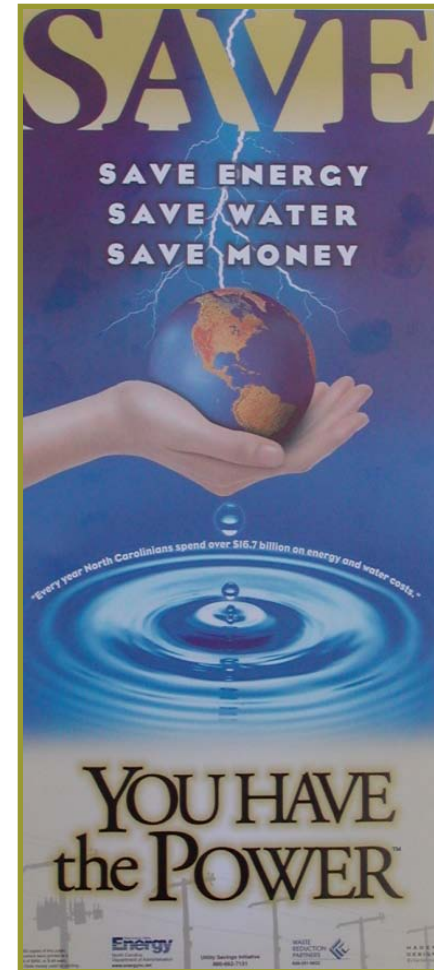
- Green Team formation
 - Top down leadership
 - Management team or resident driven
 - Assemble team members
 - Identify resources



Starting Activities – Team Focus

Data Input: Utility bills & product purchases

- Educational awareness
- Recycling programs – step up
- Energy- & water-use audits
- Purchasing review and requirements
- Environmental policies



Environmental Objectives - Policies

Energy Use:

Maximize energy efficiency and use of renewables .

Transportation and Travel:

Minimize impacts & encourage alternative transportation.

Office Waste Reduction and Purchasing:

Practice resource efficiency, sound waste management and recycling in all office operations, purchases and services.

Water Resources:

Protect water resources through water conservation and storm water management.

Health & Comfort:

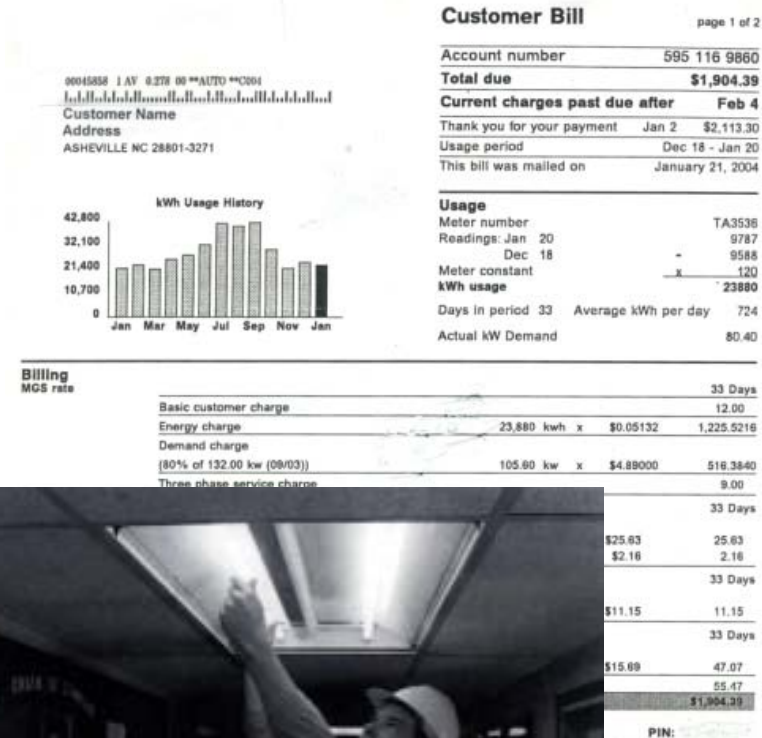
Ensure healthy indoor air quality and comfort for patient & staff.

Renovations & New Construction:

Incorporate sustainability strategies in major renovations and new construction projects.

Energy Cost -Saving Measures

- **Review and track your utility bills**
 - Usage - Kw, kWh, Therms, not just costs
- **Employ temperature set-back on HVAC**
 - Use programmable thermostats
 - Express goals in service agreements
- **Upgrade lighting**
 - Consider fluorescents, CFL, and LED
- **Behavioral**
 - e.g., sleep mode on monitors, copiers, etc.
- **Support renewable energy**
 - Buy NC Green Power blocks, solar
 - www.ncsc.ncsu.edu



Example Energy-\$aving Projects

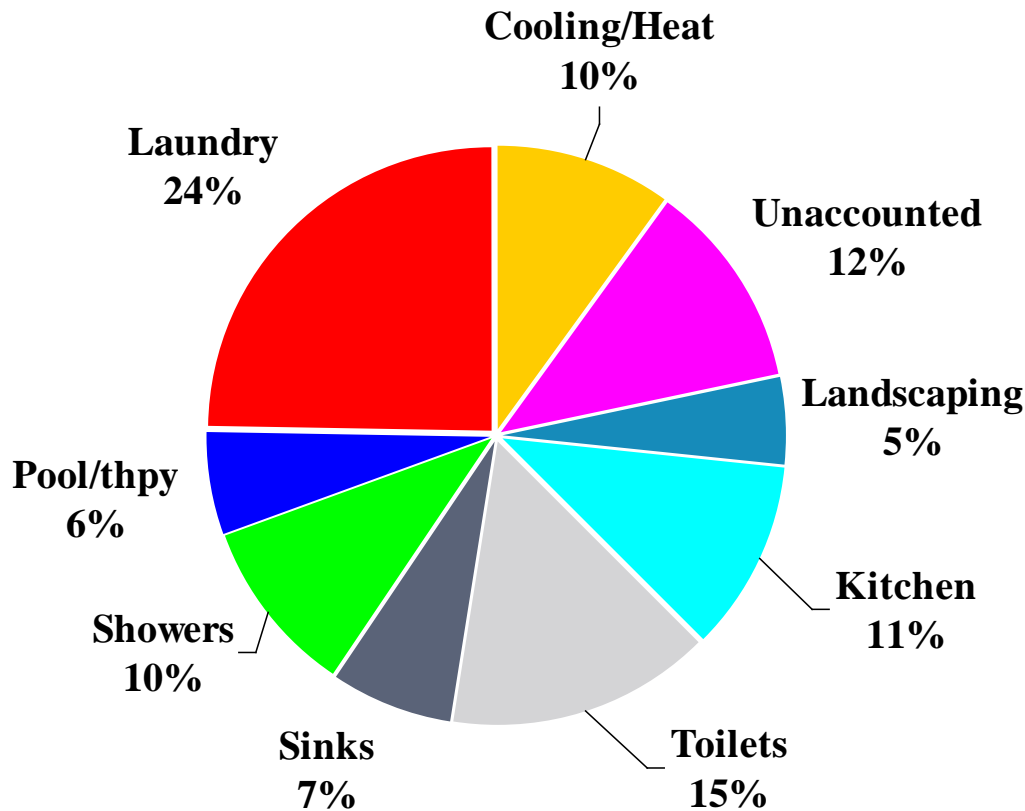
Area	Measure	Energy Savings	Payback Typical
Lighting	Upgrade old 4' fluorescents	30-35%	3 years
HVAC	Programmable thermostats	10 -30%	< 1 year
Envelope	Weatherstripping doors/windows	1-5 %	< 3 months
Appliance	Choose Energy Star refrigerator	35%	1.3 years

What about Renewable Energy?

- Solar hot water - best applications
 - Pool heating
 - Food prep – preheat
 - Laundry – preheat
- Photovoltaics (PV)
- Leverage tax incentives



Water Use – Health and Rehabilitation



Costs of Water & Sewer

\$6.76 per 1000 gallons (NC avg)

Hot Water = 2 times water costs

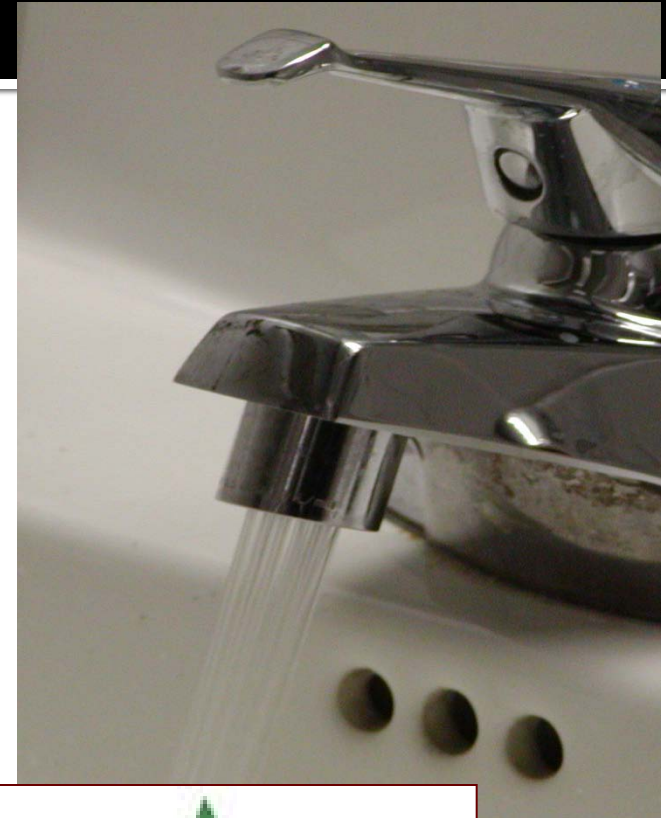
Water – Use Benchmarks

95 gallon/day per resident (post 1995 renovations)

160 gallons/day per resident (pre-1995 renovation)

Water Efficiency

- Upgrade pre-1995 toilets
 - Consider high-efficiency toilets (HET, HEU) - look for WaterSense label (5 yr. payback)
- Install lavatory faucet aerators (3 –month payback)
0.5 gallons per minute (gpm)
- Use low-flow showerhead – 1.5 gpm (< 1 year)
- Low flow – pre-rinse sprayers
- Eliminate once-thru water cooling of ice machines, autoclaves



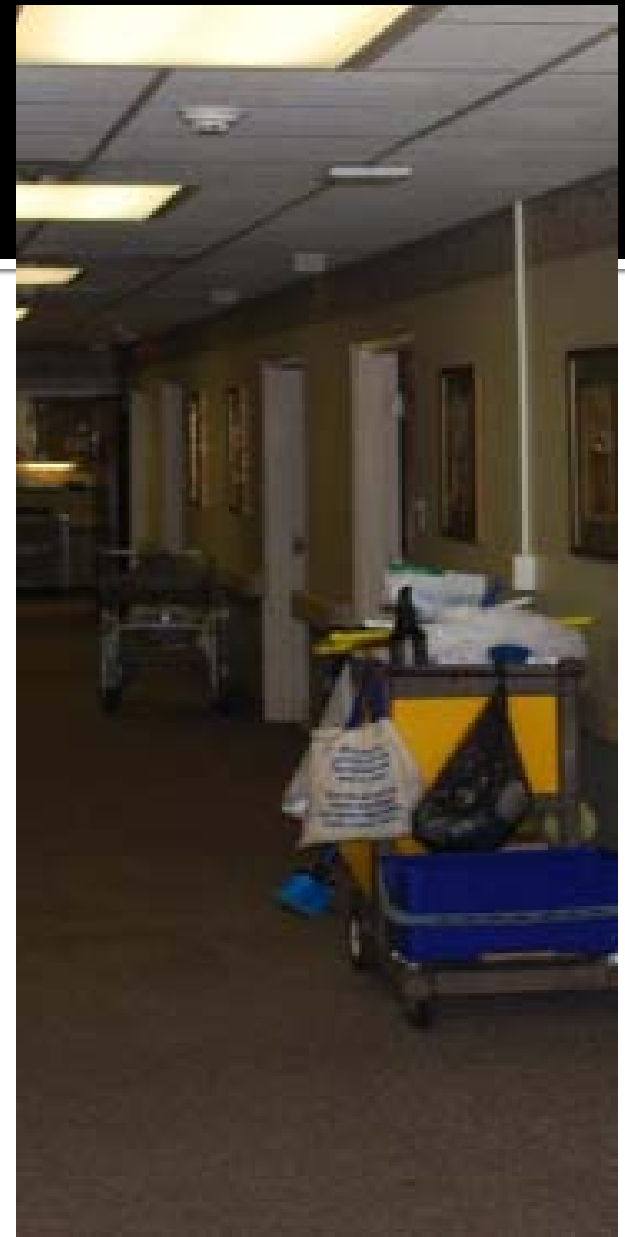
Environmental Services

Housekeeping

- Cleaning and disinfecting chemicals
 - Review and reduce # of products
 - Bulk dispensing with recyclable containers
 - Biodegradable

Sanford Health and Rehabilitation Example

- Reduce cleaning chem: 5 to 2
- 5x reduction in weight
- Reduced shipments
- 2.5 times life of soap dispenser



Office Waste Reduction

- Sound waste management and minimization
 - Medical wastes
- Enhance recycling programs
 - Paper & shredded doc recycling
 - Plastics, metal
 - E-waste
- Reduce disposables
- Buy recycled
 - Look for recycled contents
- Smarter, cheaper, faster practices; e.g., EMR
- Buy Energy Star office equipment
- Buy Water Sense plumbing fixtures



Recycling Programs

- Expanding paper
- Plastic containers
- E-electronics, batteries
- Grease
- Others
- Composting project



Transportation and Travel

- Optimize scheduling – resident transport
- Buy, lease or rent highest MPG and cleanest vehicles
 - ULEV – Ultra-low emission vehicles
 - SULEV, Super-ultra-low emission vehicles
 - Alternative Fuel Vehicles – CNG, ethanol, & biodiesel
 - Hybrids

www.fueleconomy.gov
- Encourage staff carpooling programs
 - Support public transportation systems
 - Encourage biking or walking to work
 - Plan for showering facilities, bike racks, etc.



Procurement & Policies

- Office products
- Energy Star rated equipment
- WaterSense rated devices
- Green Seal labeled housekeeping products
- Food services



Food Services

- Vendor sourcing review
- Local emphasis on procurement
- Composting



Site and Grounds Ideas

- Stormwater, watering & irrigation
 - Rain gardens, cisterns, pond reuse
- Landscaping and plant
 - Native species, drought tolerant



Renovations and New Construction

- Integrated high-performance design considerations for sustainability
- LEED Building, Energy Star
 - Addressing all aspects of design, construction and operations.
 - 0% to +5% cost per sf
- Work with LEED accredited architects & green builders/contractors
- “Greenhouse” – design concepts
- www.usgbc.org



Cary Skin Center

Performance Improvements

Health & Comfort of the Indoor Environment

- Best HVAC controls for proper humidity, filtration and fresh air needs
- Use/require low-toxic, low-odor janitorial products
 - Use concentrated product dispensing system
 - Green Seal certified products
- Use/require low-VOC paints, carpets, etc.



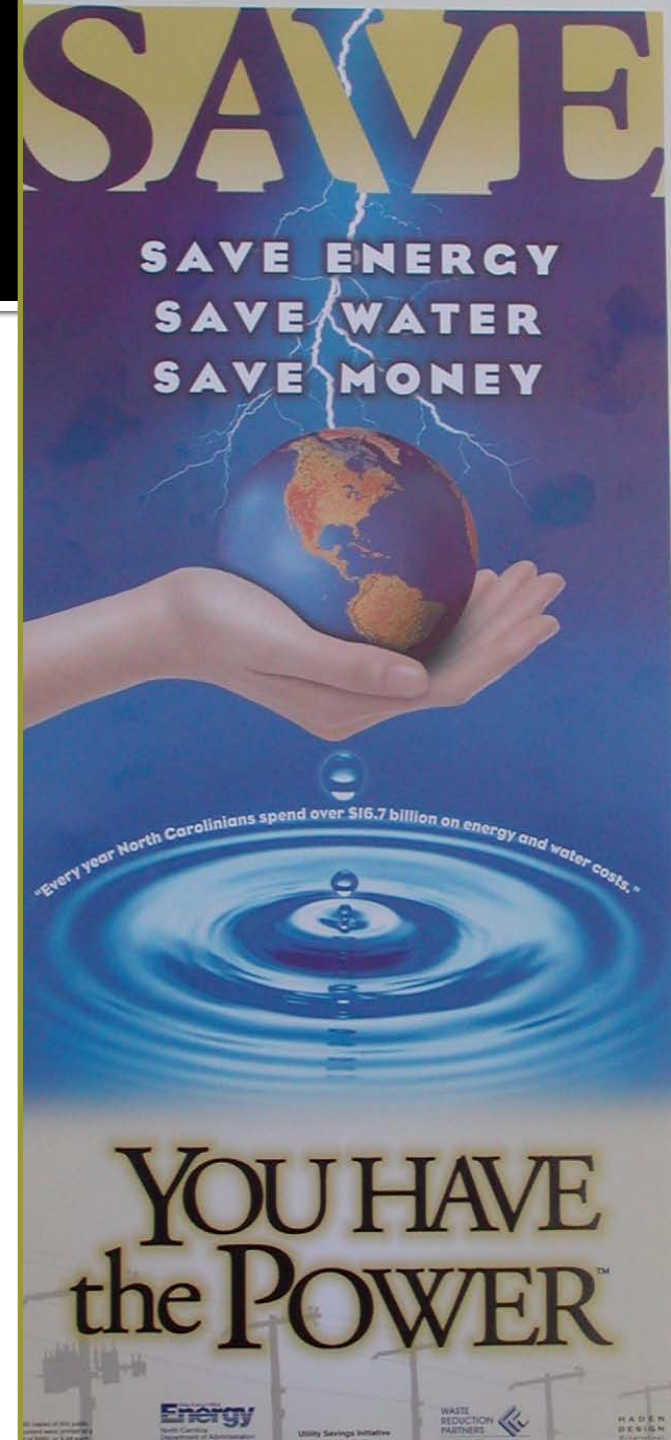
Resources – Save Time, Get Educated

Health Care Focus	www.practicegreenhealth.org/ Practice Green Health	A-Z tools, resources, some fee based
	www.gghc.org Green Guide for Health Care	BMPs, checklists, certifications
Best Environmental Resource Sites	www.p2pays.org NC Division of Pollution Prevention	Waste reduction resources, recycling directories
	www.wastereductionpartners.org Waste Reduction Partners	Facility resources, energy water, solid waste
New Facility Design	www.wbdg.org/design/nursing_home.php Whole Building Design Guide	Nursing home design
	www.usgbc.org US Green Building Council	LEED certifications
	www.ncsc.ncsu.edu NC Solar Center	Renewables, design resources, AFV
Financial Incentives	www.dsireusa.org Database of State Incentives	Compiled list of energy and green building incentives

Getting Started:

Greening Your Organization

- Engage staff - select a lead
- Solicit ideas
- Develop a policy
- Identify the opportunities
 - Engage current vendors & service providers
 - Seek technical assistance
- Implementation
 - (no-cost, low-cost, capital projects)



Waste Reduction Partners

Dedicated Professionals Sharing Expertise



Services:

Energy Auditing, Solid Waste Reduction, Water Efficiency, and Pollution Prevention Technical Assistance

Approach:

Innovative, Efficient, Cost -Saving Strategies

Staff:

Team of Retired Volunteers and Staff Engineers, Scientists, and Architects

Clients:

Business, Industry, Institutions

Service Area:

NC - Statewide

Confidential - Non-regulatory - No-cost services

Contact WRP

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